Saskatchewan
Highways and
Transportation

2003 Ferry Traffic and Seasonal/Winter Road

Annual Report

Sustainable Infrastructure
Transportation Policy Branch

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Executive Summary

This report summarizes traffic data collected at the 12 cable-stayed ferries and one free swimming ferry barge operated by the Department of Highways and Transportation during 2003. The report provides an analysis of passenger and vehicle volumes as well as traffic composition. Information about four seasonal roads operated by the Department is also included.

The main findings of the 2003 report are listed below.

- The 2003 operating season was similar to 2002.
- Low water levels caused the Estuary ferry to close for two weeks in October.
- The ferry system operated below the 10 year average traffic levels.
- Only the Riverhurst ferry had fewer vehicles and lower Average Daily Traffic (ADT) in 2003, compared with 2002.
- The Clarkboro ferry had the highest traffic volume.
- Truck percentages more than doubled at the Fenton ferry and dropped by more than half at the St. Laurent ferry compared to 2002.
- All four seasonal/winter roads were in operation during 2003.

The 2003 report recommends:

- When the operating agreement for the Wollaston Barge ferry is renegotiated, the operators be required to use the same vehicle classification system as the other ferries.

1.0 Introduction

This annual report provides a summary and analysis of the traffic using the provincial ferry system in 2003. Traffic data is reported for thirteen ferry sites the Department of Highways and Transportation operated in 2003. This report examines vehicle types and historic traffic for each ferry. Useful insights into the function of each ferry can be obtained by examining the distribution and composition of ferry traffic. Passenger data for twelve of the ferry sites and operational information about the four seasonal/winter roads operated by the Department is also included in this report.

2.0 Background

The Department operated twelve cable-stayed ferries and one free swimming ferry barge during 2003. Cable-stayed ferries operated on the North Saskatchewan and South Saskatchewan Rivers and on Lake Diefenbaker. The only free swimming ferry operates on Wollaston Lake to serve the community of Wollaston Lake. Other than replacing the Cumberland ferry with a bridge in 1996, the ferry system has not changed since responsibility for the system was moved to the Department in 1992. Ferry locations are shown in the Table I below.

Table I. Ferry Locations

Ferry	Location	Department Region
Clarkboro	South Saskatchewan River	Central Region
Riverhurst	Lake Diefenbaker	Southern Region
Paynton	North Saskatchewan River	Central Region
Weldon	South Saskatchewan River	Northern Region
St. Laurent	South Saskatchewan River	Central Region
Cecil	North Saskatchewan River	Northern Region
Wingard	North Saskatchewan River	Central Region
Hague	South Saskatchewan River	Central Region
Lemsford	South Saskatchewan River	Southern Region
Estuary	South Saskatchewan River	Southern Region
Lancer	South Saskatchewan River	Southern Region
Fenton	South Saskatchewan River	Northern Region
Wollaston Barge	Wollaston Lake	Northern Region

Ferry traffic data is collected by the ferry operators and forwarded to the traffic engineers, who analyze and compile this annual report. The vehicle classification forms used by ferry operators are shown in Appendix A.

During the winter months, the Department operated four seasonal/winter roads, which have a total length of approximately 461 km. These roads provide access to isolated communities and seasonal industrial activities. The operational periods of the roads vary considerably from year to year because of weather conditions. Seasonal/winter road locations are shown in the Table II below.

Table II. Seasonal/Winter Road Locations

Road	Location	Length	Region
Cumberland House	Hwy 9 to Cumberland House	53	Northern Region
Riverhurst	Hwy 42 across Lake Diefenbaker	2	Southern Region
Wollaston Lake	Hwy 905 to Wollaston Lake	50	Northern Region
Athabasca	Points North Landing to Uranium City	356	Northern Region

The locations of the ferries and seasonal/winter roads, including ice crossings, are shown on the map on the following page.

Saskatchewan
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2003 Ferry and Seasonal/Winter Road Locations

3.0 Ferry Operating Seasons

All ferries, except the Riverhurst ferry and the Wollaston Barge ferry, operate 17 hours per day between the hours of 7:00 am and midnight. The Wollaston Barge ferry operates when a trip is booked, and the Riverhurst ferry operates 24 hours per day. Ferries do not run at times because of mechanical failure, bad weather or poor river conditions. Table III below summarizes the 2003 operational season including downtime at all cable-stayed ferries in the province. Details of the downtime periods and their causes are shown in Appendix B. Generally, the 2003 operating season was similar to 2002.

Table III. 2003 Ferry Operating Season Statistics

Ferry	Season				Out of Service	
	Opening	Closing	Length (days)	Operating Hours	Hours	Per cent
Clarkboro	23-Apr	1-Nov	192	3264		0.0
Riverhurst	17-May	11-Dec	208	4872	120	2.4
Paynton	28-Apr	31-Oct	186	3162		0.0
Weldon	7-May	1-Nov	178	3026		0.0
St. Laurent	1-May	1-Nov	184	3128		0.0
Cecil	8-May	1-Nov	177	3009		0.0
Wingard	29-Apr	1-Nov	186	3162		0.0
Hague	30-Apr	1-Nov	185	3145		0.0
Lemsford	28-Apr	31-Oct	186	3157	5	0.2
Estuary	3-May	31-Oct	181	2825	252	8.2
Lancer	29-Apr	31-Oct	185	3145		0.0
Fenton	16-May	1-Nov	169	2873		0.0

4.0 Traffic Volumes

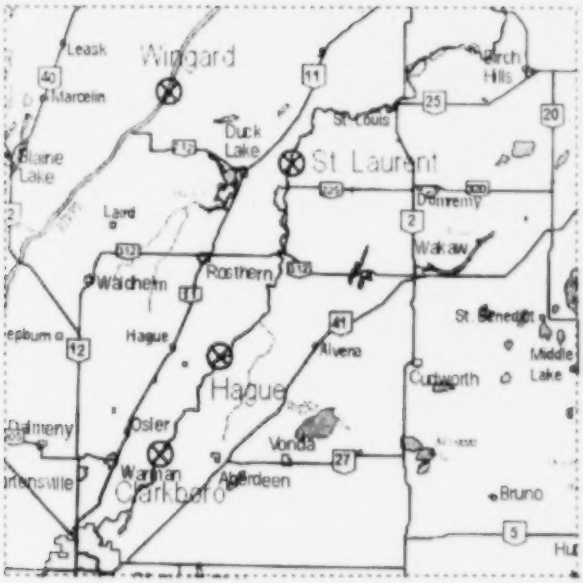
Table IV below summarizes the 2003 monthly traffic at all of the cable-stayed ferry sites. Historic traffic volumes for these ferries are shown in Appendix C. The average number of vehicles using the ferry per day is represented by the Average Daily Traffic (ADT). Historic ADT is shown in Appendix D. ADT at the Riverhurst ferry should not be directly compared to other ferries because it is based on a 24 hr period whereas ADT for all other ferries is based on a 17 hr period.

Table IV. Monthly Ferry Traffic Volumes for the 2003 Season

Ferry	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Total	ADT
Clarkboro	1,430	8,042	9,098	8,826	8,670	8,146	8,854			53,066	276
Riverhurst		2,333	5,302	8,429	6,597	4,372	3,719	2 699	837	34,288	169
Paynton	169	4,559	5,508	5,961	5,759	5,015	5,632			32,603	175
Weldon		3,435	4,266	4,485	4,920	4,249	3,953			25,308	142
St. Laurent		2,673	3,173	5,532	3,195	2,589	2,499			19,661	107
Cecil		1,813	2,411	3,099	3,395	2,546	1,990			15,254	86
Wingard	59	1,817	1,986	2,236	2,453	1,929	1,796			12,276	66
Hague	40	1,902	1,859	1,739	1,812	1,979	1,632			10,963	59
Lemsford	94	1,470	1 964	2,202	2,160	1,469	1,526			10,885	59
Estuary		1,118	1,464	1,928	1,614	1,332	640			8,096	49
Lancer	41	852	1,087	1,549	1,520	1,226	1,215			7,490	40
Fenton		699	1,225	1,499	1,331	1,137	1,083			6,974	41
Monthly Totals	**1,833**	**30,713**	**39,343**	**47,485**	**43,426**	**35,989**	**34,539**	**2,699**	**837**	**236,864**	

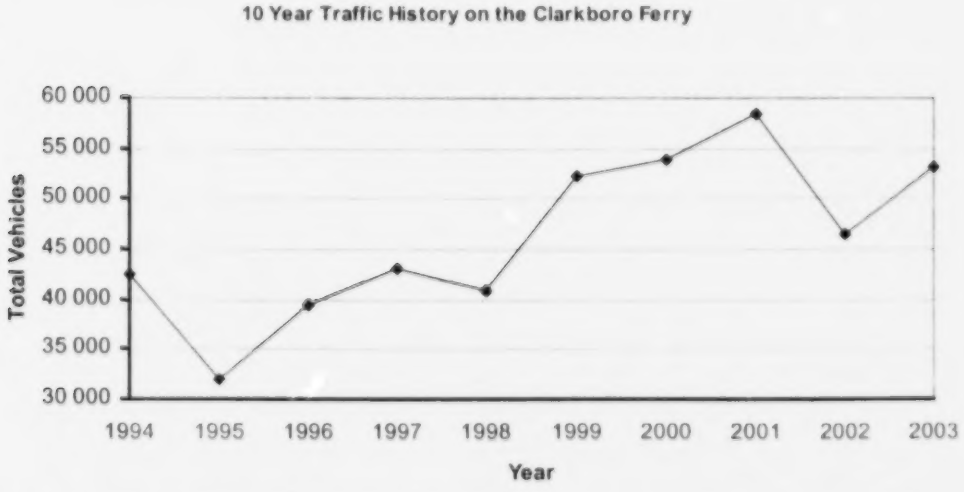
The ferry traffic data is summarized by the Department's maintenance areas. The area by area analysis results in five groupings: Saskatoon, Prince Albert, North Battleford, Swift Current and Moose Jaw.

4.1 Saskatoon Area



The Saskatoon area contains four ferries: Clarkboro, St. Laurent, Hague and Wingard. The neighboring Clarkboro and St. Laurent ferries have historically carried annual traffic in the 46,000 and 22,000 vehicles range respectively. The Wingard and Hague ferries have historically carried annual traffic in the 11,000 and 12,000 vehicles range respectively. In 2003, traffic at all four ferries was higher than in 2002.

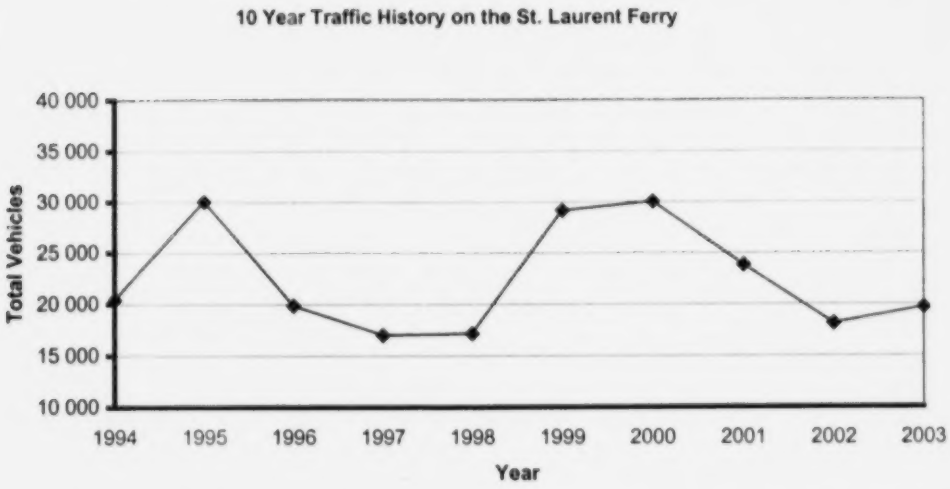
Chart 4.1A 10 Year History of Traffic on the Clarkboro Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	42 448	31 975	39 338	42 991	40 839	52 185	53 780	58 303	46 374	53 066
ADT				218	206	234	255	255	234	276

Traffic on the Clarkboro ferry increased by 14 % since 2002. ADT increased by 18 % in 2003 to the highest value in seven years.

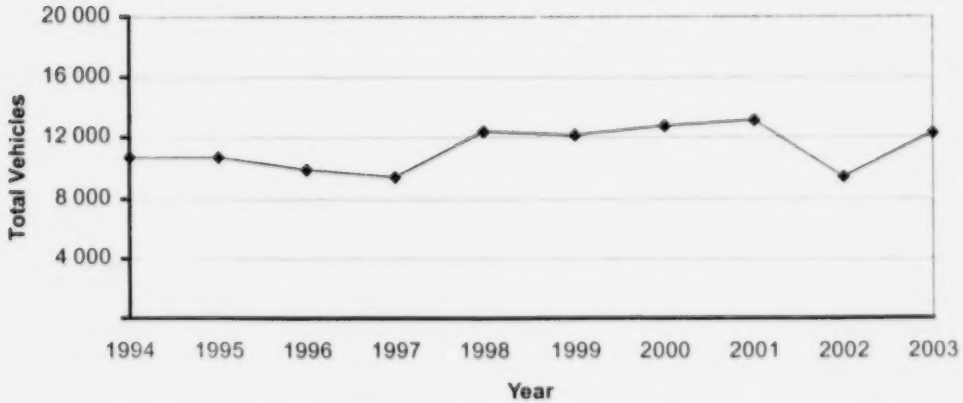
Chart 4.1B 10 Year History of Traffic on the St. Laurent Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	20 421	30 030	19 875	16 987	17 133	29 143	29 980	23 796	18 102	19 661
ADT				91	85	130	147	111	99	107

Traffic on the St. Laurent ferry increased by 9 % in 2003. The 2003 ADT was slightly below the seven year average.

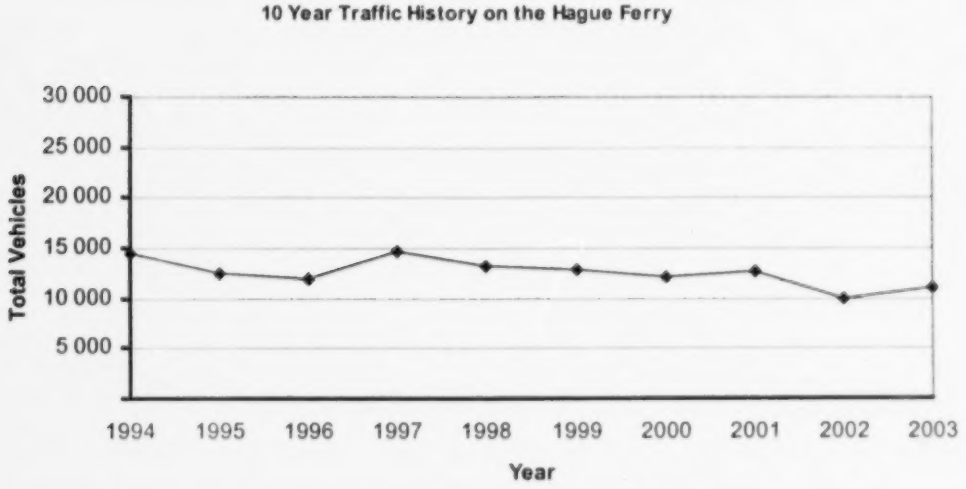
Chart 4.1C 10 Year History of Traffic on the Wingard Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	10 719	10 687	9 878	9 420	12 467	12 227	12 791	13 158	9 368	12 276
ADT				50	63	63	63	66	54	66

Traffic on the Wingard ferry increased by 31 % since 2002. ADT increased by 21 % to the highest volume in seven years.

Chart 4.1D 10 Year History of Traffic on the Hague Ferry



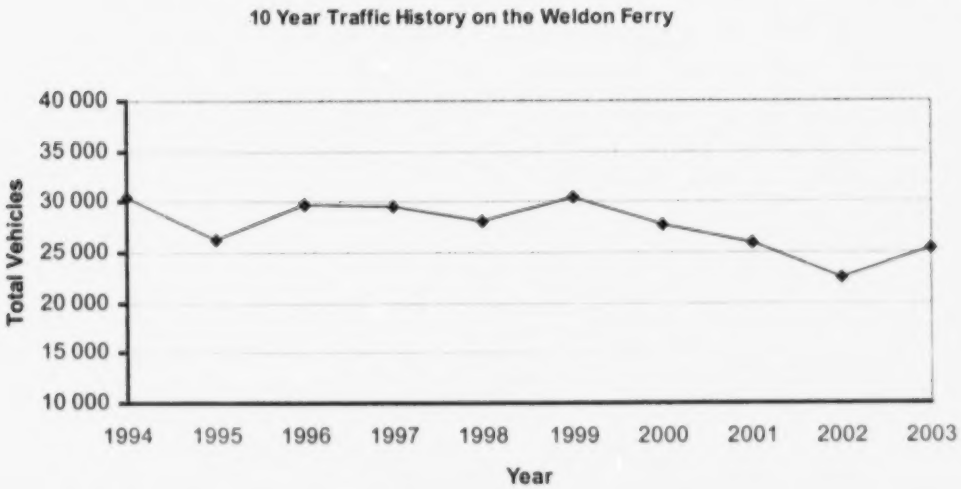
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	14 442	12 425	11 961	14 577	13 122	12 845	12 156	12 652	10 006	10 963
ADT				75	68	58	61	59	55	59

Traffic on the Hague ferry increased by 10 % since 2002, but is still below the 10 year average. The 2003 ADT is also below the 10 year average.

4.2 *Prince Albert Area*

The Prince Albert area includes the Weldon, Cecil and Fenton ferries. The 2003 traffic volumes increased at all of the Prince Albert ferries compared to 2002.

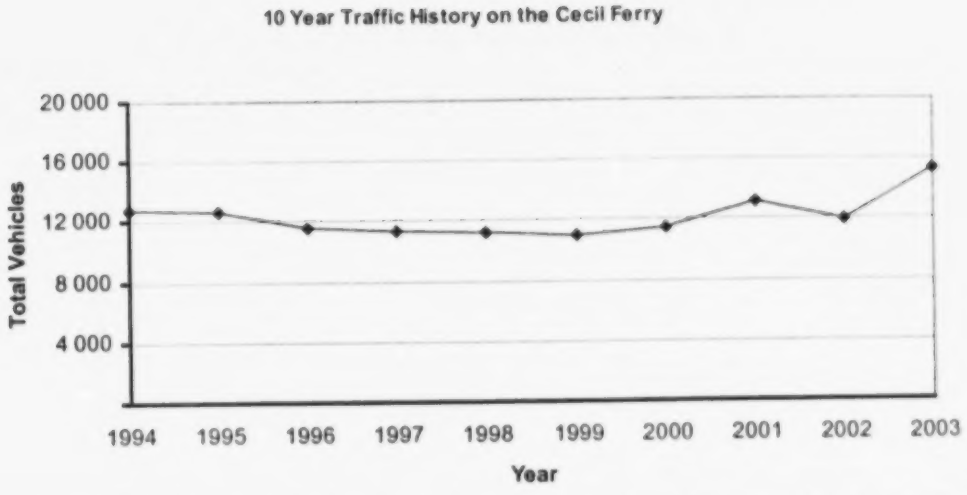
Chart 4.2A 10 Year History of Traffic on the Weldon Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	30 465	26 268	29 657	29 455	28 003	30 382	27 770	25 875	22 461	25 308
ADT				153	142	159	141	135	133	142

In 2003, traffic on the Weldon ferry increased by 13 % over 2002, but is still below the 10 year average. The ADT is very close to the seven year average.

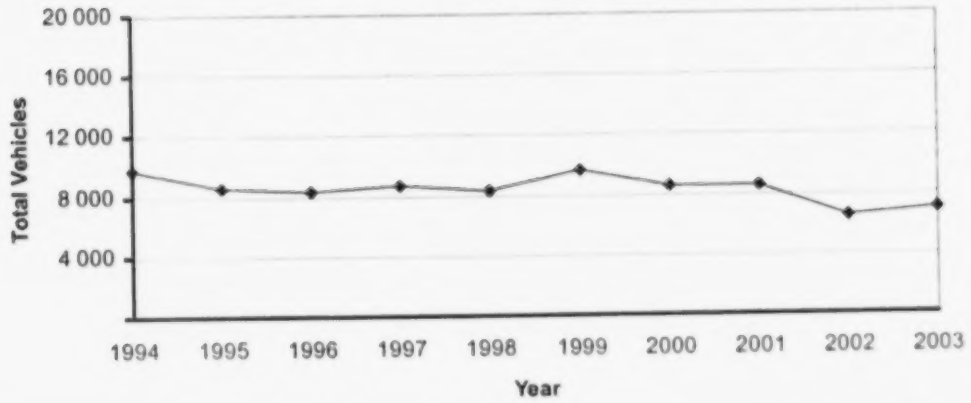
Chart 4.2B 10 Year History of Traffic on the Cecil Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	12 752	12 678	11 603	11 303	11 234	11 016	11 484	13 073	11 873	15 254
ADT				59	57	58	57	67	71	86

The 2003 Cecil ferry traffic increased from 2002 by 28 % and is the highest in 10 years. The ADT continued the upward trend started in 2001.

Chart 4.2C 10 Year History of Traffic on the Fenton Ferry



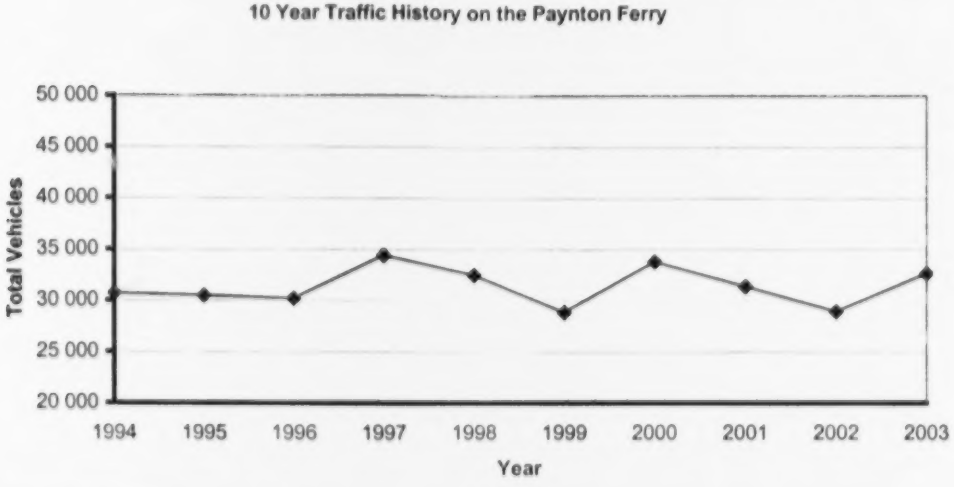
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	9 730	8 582	8 366	8 716	8 324	9 640	8 533	8 563	6 461	6 974
ADT				45	43	51	45	45	40	41

Traffic on the Fenton ferry increased eight % in 2003 but is still well below the 10 year average. The ADT was similar to 2002.

4.3 North Battleford Area

The North Battleford area has only the Paynton ferry. Paynton has carried an average of 31,000 vehicles per year over the past 10 years

Chart 4.3A 10 Year History of Traffic on the Paynton Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	30 686	30 453	30 172	34 365	32 453	28 808	33 749	31 348	28 910	32 603
ADT				210	159	141	170	158	167	175

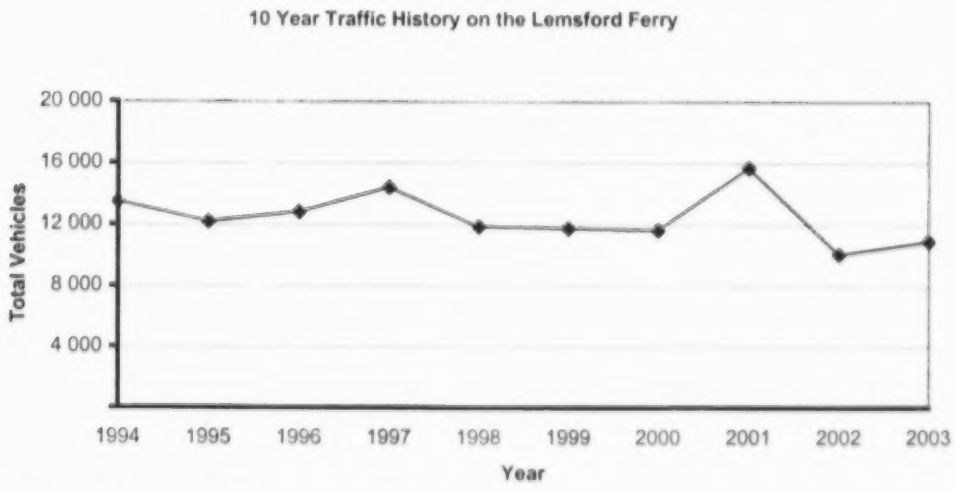
Traffic volumes at Paynton increased by 13 % over 2002. The ADT continued the upward trend started in 2002.

4.4 Swift Current Area

The Swift Current area has three ferries: Lemsford, Estuary and Lancer. Traffic volumes increased on all three ferries since 2002.

In 2003, the Estuary ferry was closed for two weeks in October because of low water levels.

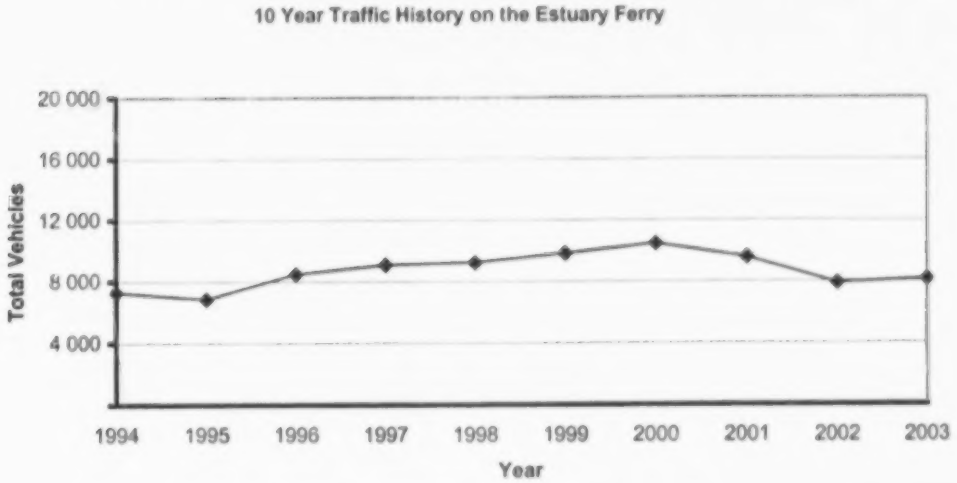
Chart 4.4A 10 Year History of Traffic on the Lemsford Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	13 471	12 170	12 805	14 393	11 849	11 730	11 623	15 659	10 031	10 885
ADT				68	58	52	58	69	55	59

Traffic volumes on the Lemsford ferry increased by nine % from 2002, but are still below the 10 year average. The 2003 ADT is slightly below the seven year average.

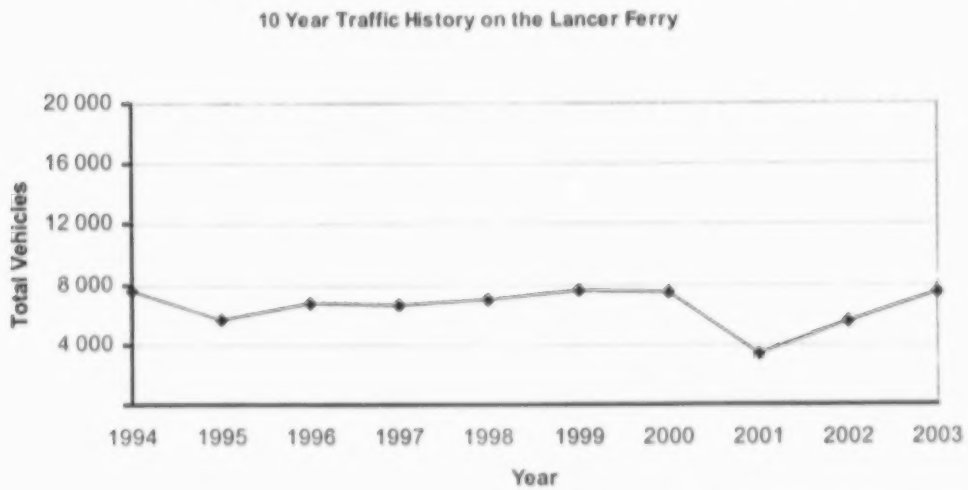
Chart 4.4B 10 Year History of Traffic on the Estuary Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	7 278	6 844	8 463	9 058	9 217	9 793	10 437	9 541	7 847	8 096
ADT				44	47	44	52	48	48	49

Traffic on the Estuary ferry increased slightly in 2003. The 2003 ADT is similar to both the 2002 ADT and the seven year average.

Chart 4.4C 10 Year History of Traffic on the Lancer Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	7 649	5 673	6 789	6 685	6 967	7 604	7 421	3 324	5 503	7 490
ADT				33	33	34	37	34	32	40

In 2003, the traffic on the Lancer ferry increased by 36 % and is near the high volumes recorded in 1999. The 2003 ADT is the highest in the seven year history.

4.5 Moose Jaw Area

The Moose Jaw area contains only the Riverhurst ferry, which is the largest and most sophisticated cable ferry in the province. This is the only ferry in the system located on a provincial highway. The Riverhurst ferry carries traffic on highway No. 42 across the 2 km width of Lake Diefenbaker. The Riverhurst ferry has carried traffic volumes in the 43,000 vehicles per year range over the last 10 years.

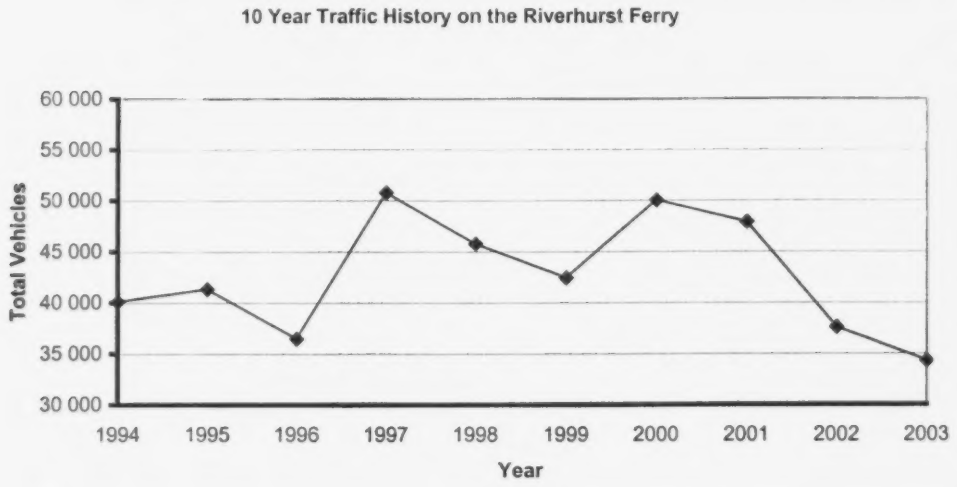
During the winter of 2002-03 the Riverhurst ferry was rehabilitated at a cost of $1.6 million. The rehabilitation was required to make the ferry compliant with current provincial and federal regulations, to increase its carrying capacity and to generally modernize its operational systems. S.H.M. Marine International Inc. a British Columbia marine engineering consultant provided assessment, design and construction supervision services for the rehabilitation project.

Consultations held with local government representatives and the public in Riverhurst and Lucky Lake were a major factor in the final design of the rehabilitation.

The rehabilitation increased the ferries operating capacity from one to two B-trains. The washroom facilities were also renovated to be wheelchair accessible. A number of upgrades to the ferries operational infrastructure were included in the rehabilitation. Those upgrades included repairs to the crossing ramps, renewal of the diesel motor and generators and replacement of the main drive gear assembly.

The ferry returned to service on May 17, 2003 approximately one month later than a normal spring startup.

Chart 4.5A 10 Year History of Traffic on the Riverhurst Ferry



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Volume	40 076	41 291	36 449	50 766	45 763	42 424	50 010	47 867	37 578	34 288
ADT				213	190	174	216	204	176	169

Traffic on the Riverhurst ferry decreased by nine % over 2002, the lowest volumes in the last 10 years. The 2003 ADT decreased to a seven year low.

5.0 Vehicle Classifications

Ferry operators record the vehicle type of traffic using the ferries. The vehicle classification analysis is divided into the same geographical areas used for traffic volumes. The breakdown of vehicle types for each location is summarized in the charts below.

Chart 5.0A 2003 Straight Trucks by Location

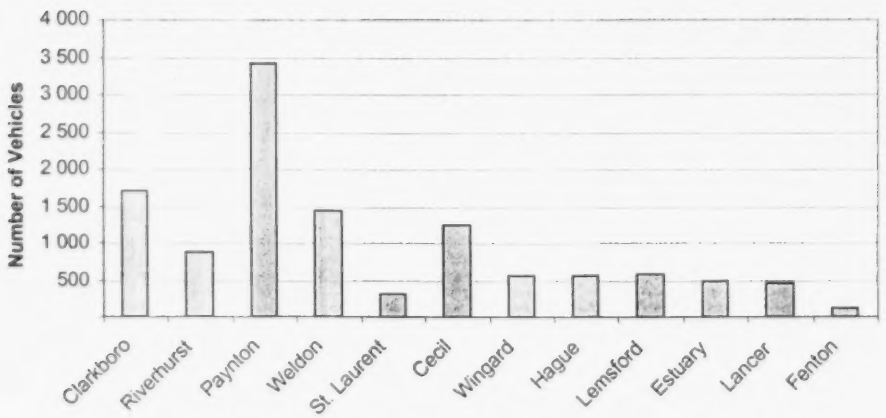


Chart 5.0B 2003 Single-Trailer Trucks by Location

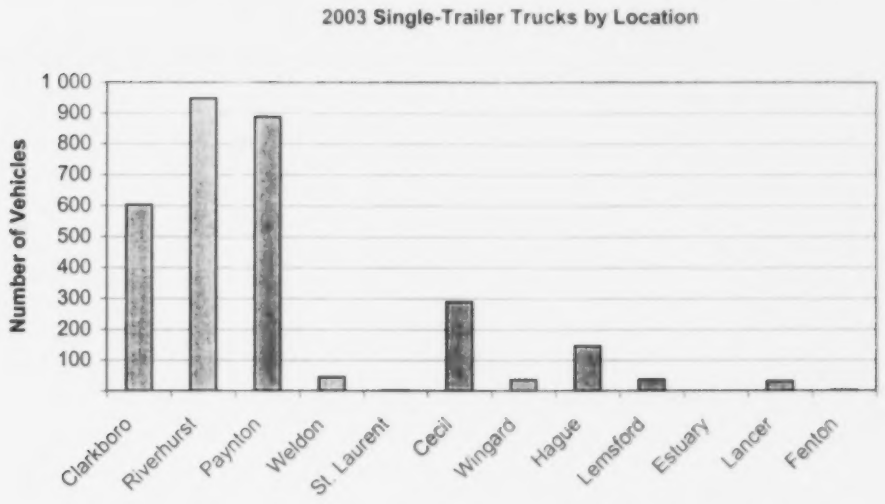
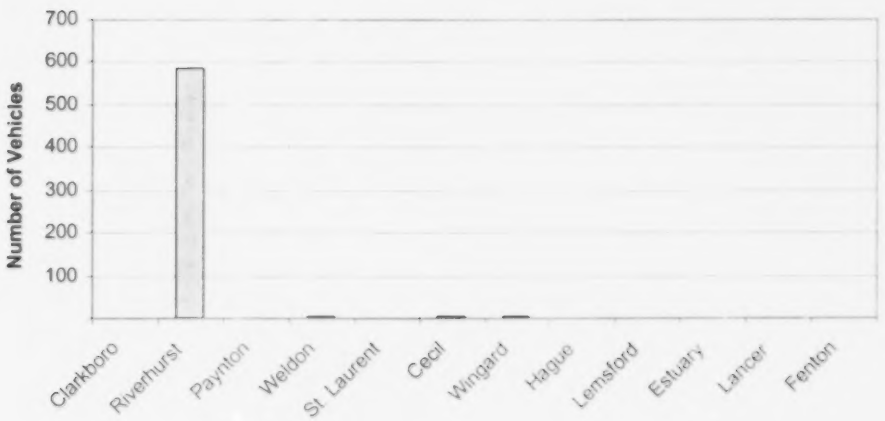
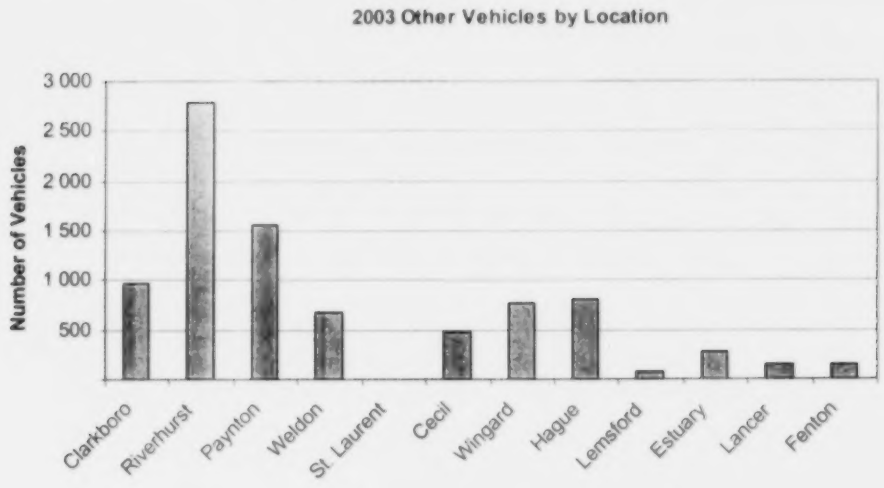


Chart 5.0C 2003 Multi-Trailer Trucks by Location



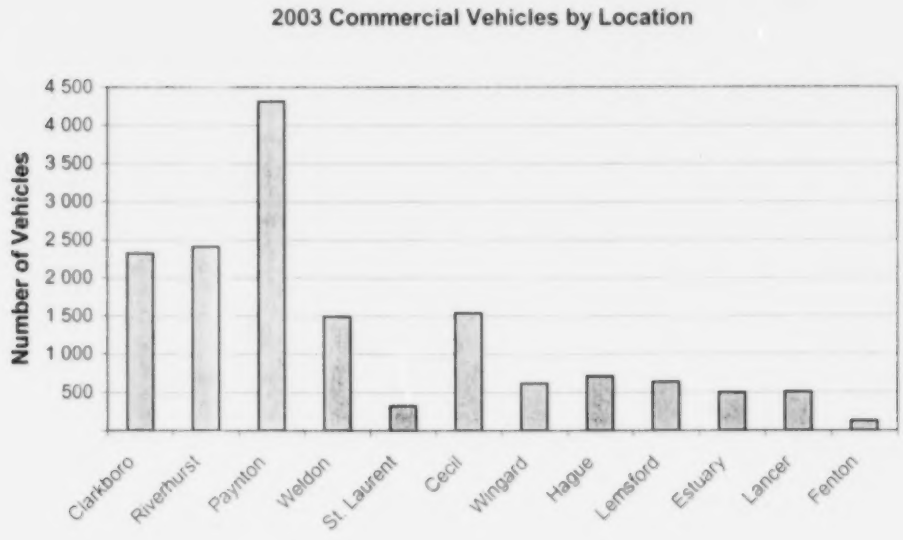
Most ferries are not long enough to accommodate multi-trailer trucks.

Chart 5.0D 2003 Other Vehicles by Location



The vehicle category "other" normally refers to farm or construction equipment except near recreation areas, where they are often recreational vehicles or passenger vehicles pulling a boat or camping trailer.

Chart 5.0E 2003 Commercial Vehicles by Location

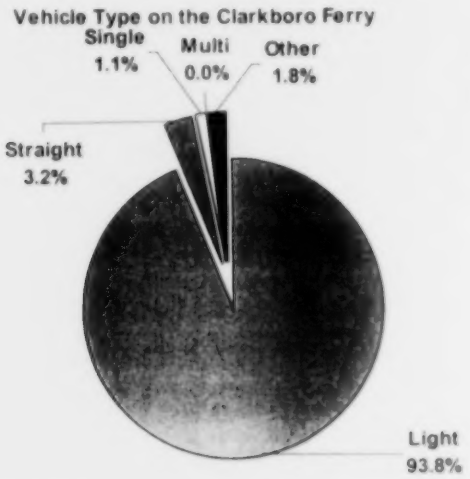


The commercial vehicles above contains only straight, single and multi trailer trucks. The "other" vehicles are not included because they are typically not hauling freight or commodities.

5.1 Saskatoon Area

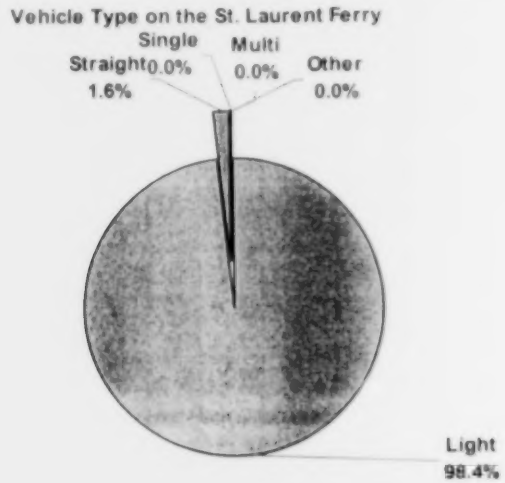
In previous ferry reports, the Clarkboro ferry was incorrectly shown to carry multi-trailer trucks. The St. Laurent ferry carries predominantly passenger vehicles while the percentage of trucks has decreased by 58 per cent over 2002. The Wingard and Hague ferries carry a high percentage of "other" vehicles.

Chart 5.1A 2003 Vehicle Types Using the Clarkboro Ferry



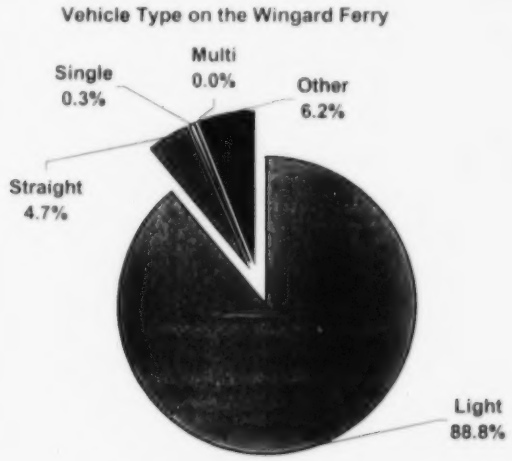
	1998	1999	2000	2001	2002	2003
Truck %	3.6	4.0	4.6	5.0	3.9	4.4

Chart 5.1B 2003 Vehicle Types Using the St. Laurent Ferry



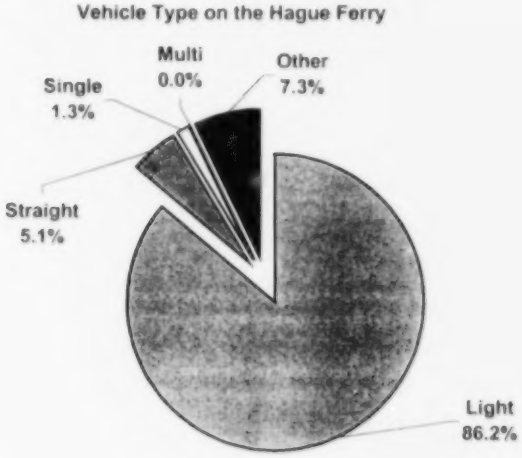
	1997	1998	1999	2000	2001	2002	2003
Truck %	2.4	1.6	1.8	1.9	2.6	3.8	1.6

Chart 5.1C 2003 Vehicle Types Using the Wingard Ferry



	1997	1998	1999	2000	2001	2002	2003
Truck %	6.8	5.4	4.2	3.4	3.2	3.9	5.0

Chart 5.1D 2003 Vehicle Types Using the Hague Ferry

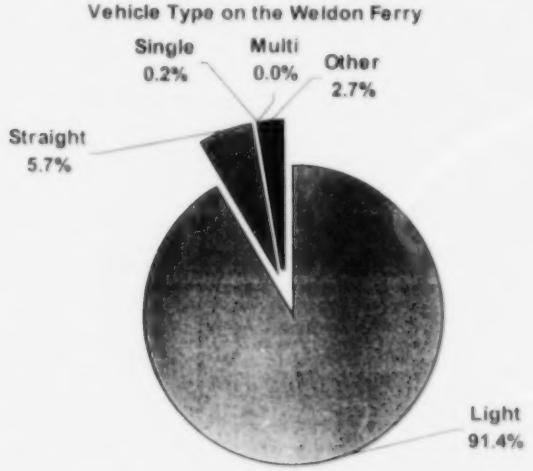


	1998	1999	2000	2001	2002	2003
Truck %	12.5	6.4	6.4	4.6	4.8	6.4

5.2 *Prince Albert Area*

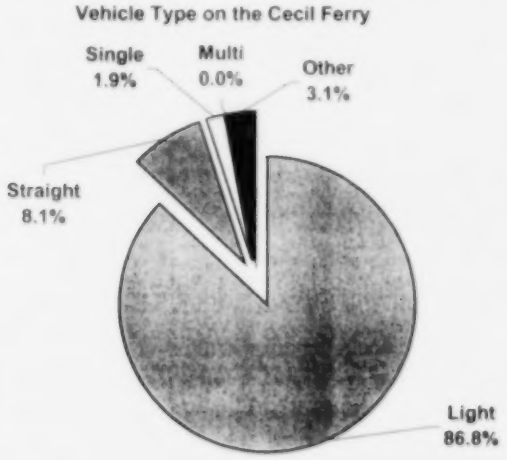
Weldon carries vehicle types that are indicative of a local route. Cecil has consistently carried a large proportion of trucks. The high percentage of non-articulated trucks at Cecil indicates that it is on a short distance haul route. Traffic on the Fenton ferry was almost exclusively passenger vehicles.

Chart 5.2A 2003 Vehicle Types Using the Weldon Ferry



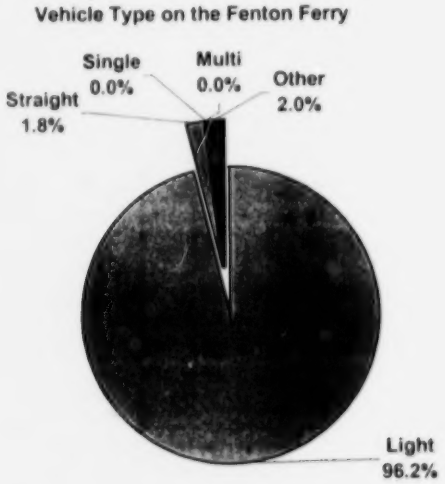
	1997	1998	1999	2000	2001	2002	2003
Truck %	7.8	4.8	5.1	4.5	5.2	3.8	5.9

Chart 5.2B 2003 Vehicle Types Using the Cecil Ferry



	1997	1998	1999	2000	2001	2002	2003
Truck %	10.9	10.9	10.8	9.5	10.1	9.1	10.0

Chart 5.2C 2003 Vehicle Types Using the Fenton Ferry

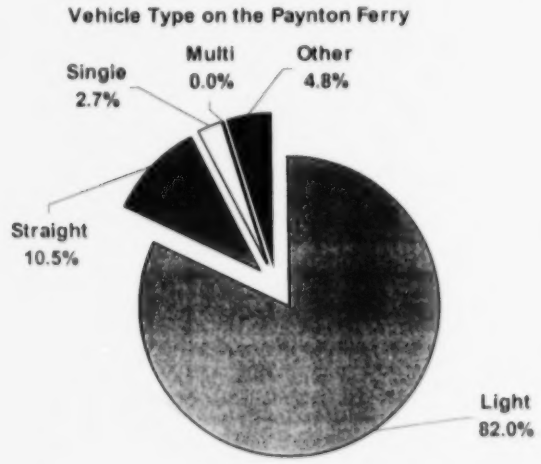


	1997	1998	1999	2000	2001	2002	2003
Truck %	2.8	1.1	2.8	1.2	1.0	0.8	1.8

5.3 North Battleford Area

Paynton serves as a freight haul link to Highway No.16, as demonstrated by the relatively high percentage of trucks that used the ferry in 2003. The percentage of trucks is the highest of all the ferries.

Chart 5.3A 2003 Vehicle Types Using the Paynton Ferry

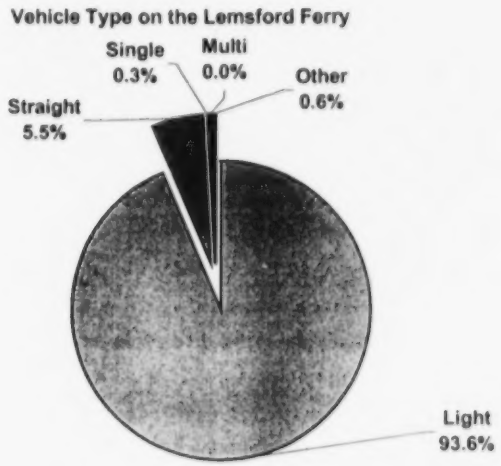


	1998	1999	2000	2001	2002	2003
Truck %	9.4	10.3	11.0	12.0	14.0	13.2

5.4 Swift Current Area

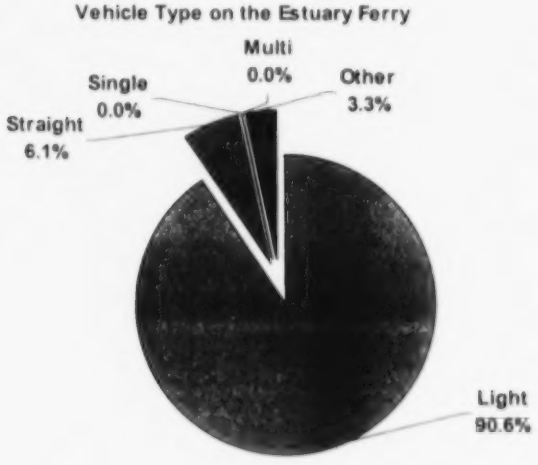
The Swift Current area ferries all serve predominately rural populations. In 2003, the Lemsford and Lancer ferries had the highest percentage of trucks in six years. At the Estuary ferry the straight trucks and "other" vehicle groups were combined for a portion of the 2002 season. In 2003, Estuary carried a fairly high percentage of farm trucks and farm equipment.

Chart 5.4A 2003 Vehicle Types Using the Lemsford Ferry



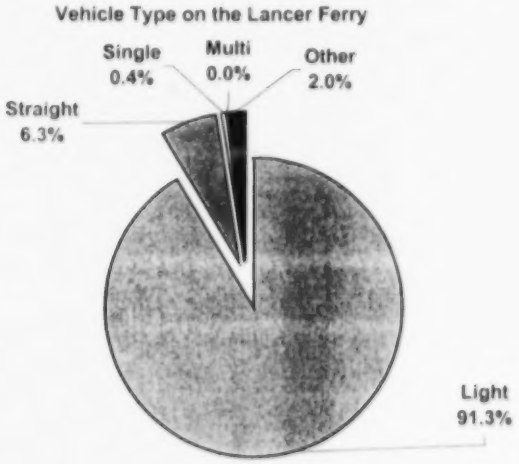
	1998	1999	2000	2001	2002	2003
Truck %	4.0	3.9	3.6	2.5	5.2	5.8

Chart 5.4B 2003 Vehicle Types Using the Estuary Ferry



	1998	1999	2000	2001	2002	2003
Truck %	5.1	9.3	5.4	4.7	8.9	6.1

Chart 5.4C 2003 Vehicle Types Using the Lancer Ferry

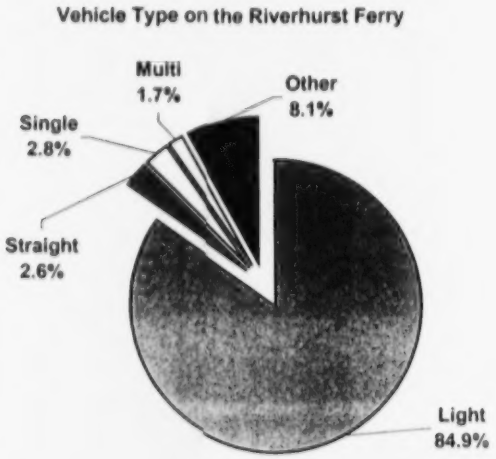


	1998	1999	2000	2001	2002	2003
Truck %	2.4	4.0	3.7	2.3	3.9	6.7

5.5 Moose Jaw Area

The Riverhurst ferry is the largest and most sophisticated cable ferry in the system. It is also the only cable ferry located on the provincial highway system. Riverhurst has the highest percentage of "other" vehicles. At Riverhurst, "other" vehicles usually refers to campers, boats and other recreational vehicles.

Chart 5.5A 2003 Vehicle Types Using the Riverhurst Ferry

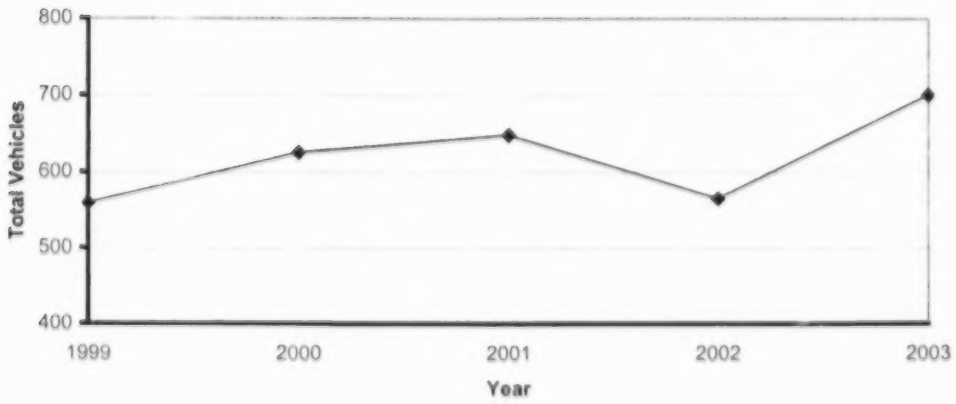


	1998	1999	2000	2001	2002	2003
Truck %	7.3	7.9	5.5	7.0	7.7	7.0

6.0 Wollaston Barge Ferry

The Wollaston Barge ferry connects the community of Wollaston Lake to Highway No. 905. This vessel is unique because it is the only free-swimming ferry operated in the province and is the only ferry that charges a fee. The Hatchet Lake Economic Development Corporation operates the ferry for the department. The operational season at Wollaston Lake is shorter than other ferries in the province because of the northern location. This ferry carries significantly lower traffic volumes than the southern ferries because the length of the crossing only allows a maximum of three round trips each day. A total of 700 vehicles used this ferry in 2003, which is 24 % more than 2002. The ferry opened on June 15, 2003 and closed on October 22, 2003.

Five Year Traffic History on the Wollaston Barge Ferry



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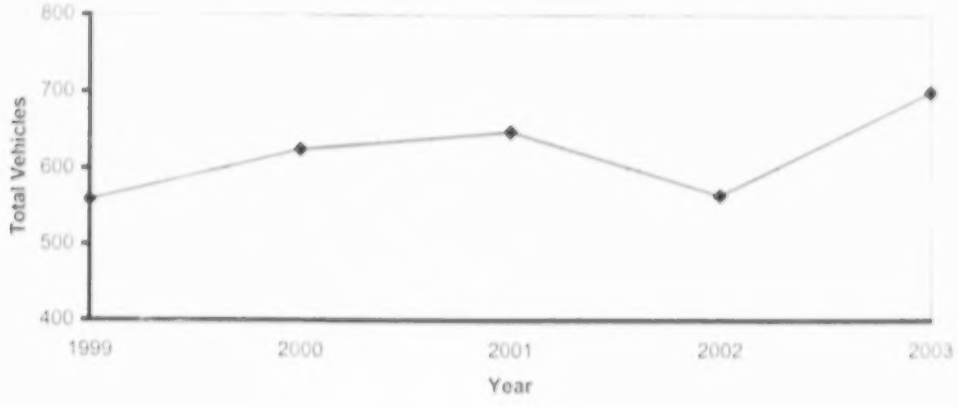
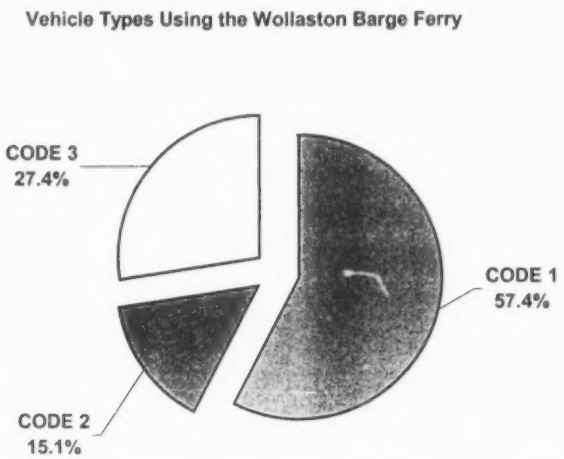


	1999	2000	2001	2002	2003
Volume	559	625	648	565	700

The vehicle classification system used at Wollaston is different than that used by the rest of the ferry system. The three codes used at the Wollaston Barge ferry are based on the fee structure charged to the different vehicle types.

Chart 6.1A 2003 Vehicle Types Using the Wollaston Barge Ferry



	1999	2000	2001	2002	2003
Truck %	38.3	42.7	41.5	45.0	42.6

Code 1 - Single Light Vehicle - car, truck (less then a 1 ton), motorcycle, etc.

Code 2 - Other - includes single vehicles with trailer, trucks over one ton, etc.

Code 3 - Full - Any semi trailer, construction equipment, etc.

The Wollaston ferry carried the highest percentage of commercial vehicles in the province at approximately 43 %. Other than by air, this ferry provides the only summer access to Wollaston Lake. There are few passenger trips because the community is small and the trip to the nearest community is quite long.

7.0 Passengers

The table below summarizes the 2003 monthly number of passengers for the cable-stayed ferry sites. Historic passenger volumes for these ferries are shown in Appendix E.

Table 6. Monthly Ferry Passenger Volumes for the 2003 Season

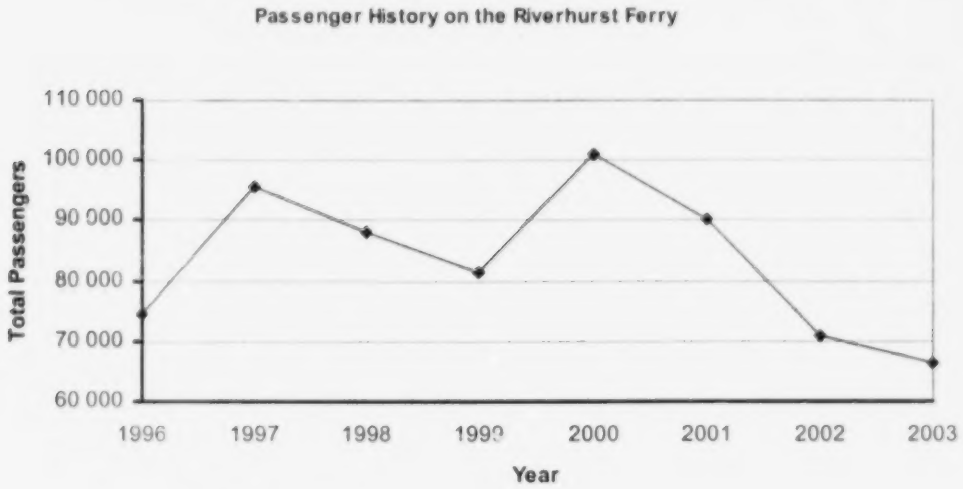
Ferry	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Clarkboro	2,325	13,344	15,184	15,898	15,064	12,761	14,333			**88,909**
Riverhurst		4,103	9,989	17,411	13,663	7,899	6,870	4,967	1,520	**66,422**
Paynton	340	7,621	9,629	10,349	10,356	8,555	9,164			**56,014**
Weldon		6,750	8,439	9,381	9,469	7,220	6,990			**48,249**
St. Laurent		5,631	7,158	12,989	6,712	4,713	4,453			**41,656**
Cecil		3,279	4,759	6,186	6,539	4,417	3,639			**28,819**
Wingard	103	4,029	4,869	5,564	6,325	3,742	3,667			**28,299**
Hague	52	3,233	3,214	3,185	3,148	2,997	2,425			**18,254**
Lemsford	172	2,393	3,360	4,326	3,888	2,398	2,592			**19,129**
Estuary		2,136	2,846	3,317	3,080	2,219	1,130			**14,728**
Lancer	67	1,443	1,942	2,616	2,677	2,248	2,181			**13,174**
Fenton		1,163	2,198	2,717	2,284	1,856	1,691			**11,909**
Totals	**3,059**	**55,125**	**73,587**	**93,939**	**83,205**	**61,025**	**59,135**	**4,967**	**1,520**	**435,562**

Passenger volumes were first recorded in 2000, except for Riverhurst and St. Laurent where volumes have been recorded since 1996 and 2003 respectively.

7.1 Moose Jaw Area

The Riverhurst ferry has been recording passenger volumes since 1996.

Chart 7.1A Passenger History on the Riverhurst Ferry



	1996	1997	1998	1999	2000	2001	2002	2003
Passengers	74 355	95 671	87 956	81 526	100 979	90 056	70 700	66 422
Pass/Vehicle	2.04	1.88	1.92	1.92	2.02	1.88	1.88	1.94

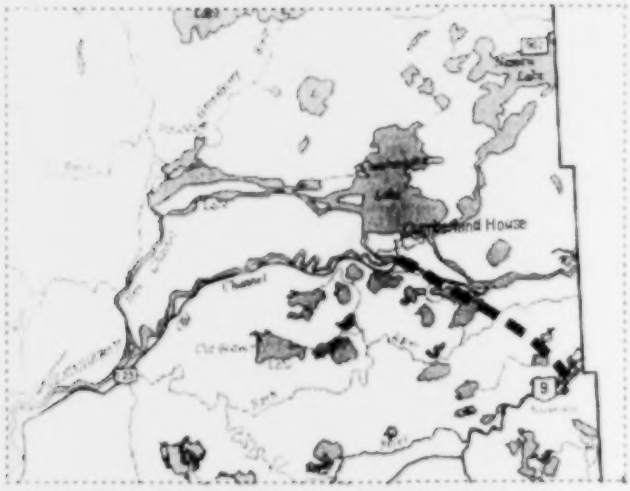
The 2003 volume of passengers on the Riverhurst ferry decreased by over six % and is the lowest in eight years.

8.0 Seasonal/Winter Roads

All four seasonal/winter roads were operated by the Department in 2003: the Cumberland House road (53 km), the Riverhurst road (2 km), the Wollaston Lake road (50 km) and the Athabasca road (356 km).

The length of the operating season for the seasonal/winter roads varies from year to year depending on winter conditions. Local traffic often uses the roads both before and after the official season. The ice has to be sufficiently thick and the road completely constructed before the Department officially allows travel on a seasonal/winter road.

8.1 Cumberland House Winter Road



The Cumberland House winter road has been operating since 1992-1993. The Cumberland House road officially opened to local traffic on January 22, 2003 and closed March 21, 2003. The road is 53 km long and intersects with the north end of Highway No. 9 just west of the Manitoba boundary.

The winter road was open for traffic for 59 days in 2003. An estimated nine vehicles per day used the road in 2003, for a total of 531 vehicles during the operating season. Total expenditures for the Cumberland House road in the 2002-03 fiscal year were $18,952 for a unit cost of $358 /km or $321 per day of operation. The 10 year history of the Cumberland House winter road is shown in table below.

Table 7. 10 Year History of the Cumberland Winter Road

Year	Opening	Closing	Length (days)	Cost
1993-94	24-Jan	29-Mar	65	$18,000
1994-95	10-Jan	28-Mar	78	$2,707
1995-96	1-Dec	12-Mar	103	$50,145*
1996-97	5-Jan	26-Mar	81	$19,702*
1997-98	19-Jan	24-Mar	65	$3,610
1998-99	8-Dec	3-Mar	86	$4,524
1999-00	5-Jan	22-Mar	78	$4,500
2000-01	3-Jan	14-Mar	71	$14,242
2001-02	11-Jan	28-Mar	77	$13,113
2002-03	22-Jan	21-Mar	59	$18,952

* Significant Clearing and Grubbing Operation

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2001-02	11-Jan	28-Mar	77	$13,113
2002-03	22-Jan	21-Mar	59	$18,952

* Significant Clearing and Grubbing Operation

8.2 *Riverhurst Winter Road*

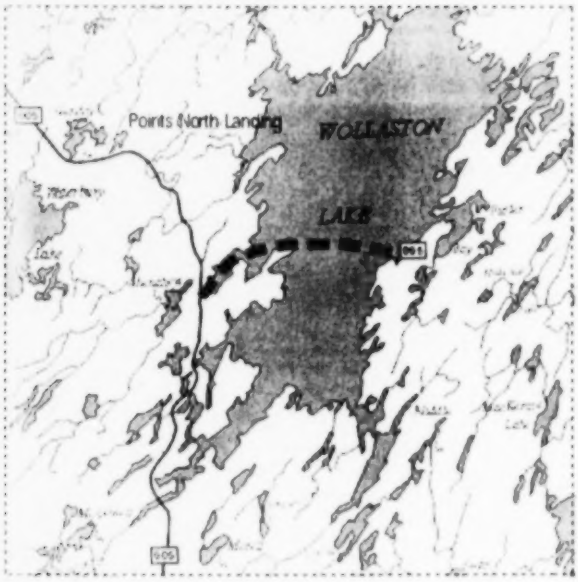
The Riverhurst ice road was officially opened February 21, 2003 and closed on March 15, 2003. The Riverhurst ice road has operated intermittently for many years. In years when an official road is opened, the Department establishes and maintains it. The Department may decide not to open the ice road if the ice does not become sufficiently thick early in the season. Often, local residents will create their own winter trail across the ice in the years that the Department opts not to open a winter road. There is no official operational record for those years.

The winter road was open to traffic for 23 days in 2003. An estimated 30 vehicles per day used the road in 2003, for a total of 690 vehicles during the operating season. Total expenditures for the Riverhurst road in the 2002-03 fiscal year were $16,547 for a unit cost of $8,274 /km or $719 per day of operation. The 10 year history of the Riverhurst winter road is shown in table below.

Table 8. 10 Year History of the Riverhurst Ice Road

Year	Opening	Closing	Length(days)	Cost
1993-94	9-Mar	14-Mar	5	
1994-95	23-Jan	11-Mar	47	
1995-96	11-Jan	7-Apr	87	
1996-97	20-Jan	20-Mar	60	
1997-98	N/A	N/A	N/A	
1998-99	1-Feb	19-Mar	47	
1999-00	N/A	N/A	N/A	
2000-01	4-Mar	12-Mar	9	
2001-02	N/A	N/A	N/A	
2002-03	21-Feb	15-Mar	23	$16,547

8.3 Wollaston Lake Winter Road

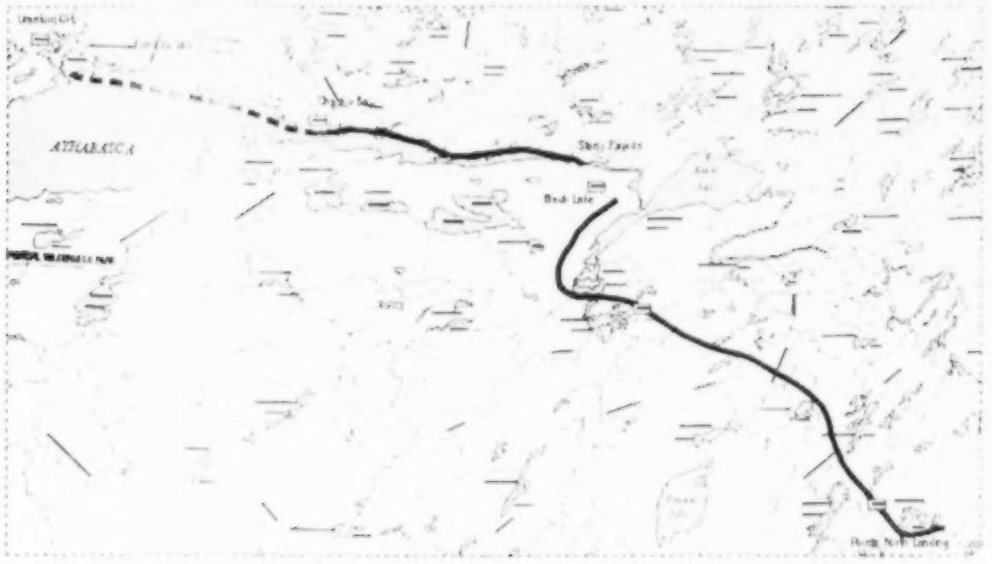


The Wollaston Lake ice road is 50 km long and crosses the ice on Wollaston Lake to provide access to the residents of the community of Wollaston Lake. It is established and maintained by the Hatchet Lake Economic Development Corporation for the Department. The 2003 road construction started January 6, 2003. The 2003 season officially opened on February 10, 2003 and ended April 5, 2003. The total cost was $124,813 for a unit cost of $2,496 /km and $2,269 per day. An estimated 200 vehicles per week used the roadway, for a total of 1,570 vehicles during the operating season. The operational history of the Wollaston Lake ice road is shown in Table 9 below.

Table 9. History of the Wollaston Lake Ice Road

Year	Opening	Closing	Length(days)	Cost
1997-98	11-Jan	31-Mar	80	$128,000
1998-99	15-Feb	31-Mar	45	$129,000
1999-00	17-Jan	31-Mar	75	$126,666
2000-01	20-Feb	8-Apr	46	$95,844
2001-02	12-Feb	5-Apr	53	$99,158
2002-03	10-Feb	5-Apr	55	$124,813

8.4 Athabasca Seasonal/Winter Road



The Athabasca seasonal/winter road is maintained by the Athabasca Basin Training and Development Corporation for the Department. Four separate road sections form the Athabasca seasonal/winter road. Over 180 km from Points North to Black Lake is currently a bladed trail that requires extensive yearly repair work. The road from Stony Rapids to Shasko Bay is a winter-only road and the two sections from Shasko Bay to Uranium City are ice roads across Lake Athabasca.

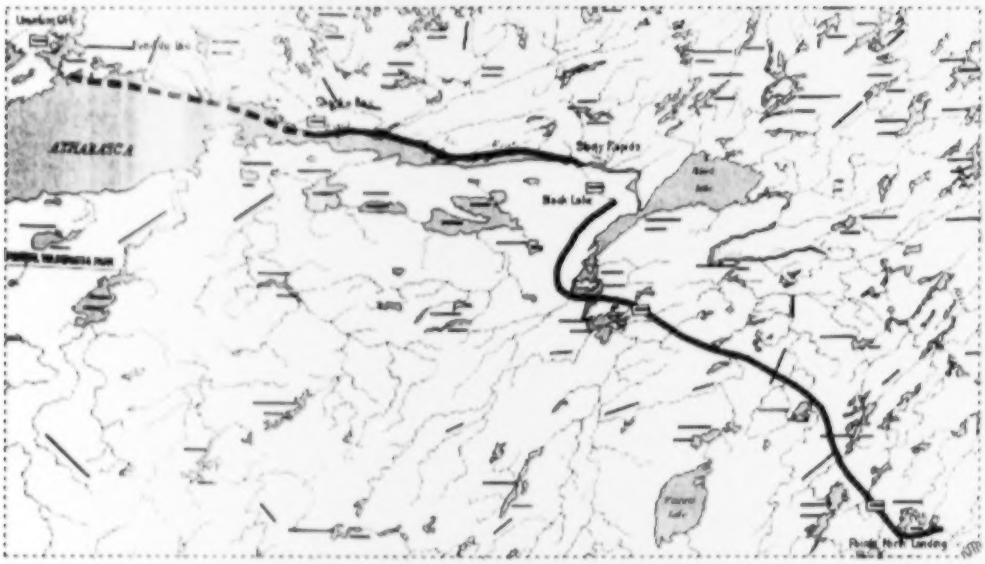
The combined length of the seasonal/winter road sections from Points North to Uranium City is 356 km. The 2002-03 cost of building and maintaining the four seasonal/winter road sections was $1,180,777 for a unit cost of $3,321 /km. An estimated 3,200 vehicles including 200 confirmed loads of freight used the road in 2003. Historical data for the sections are shown in the tables below.

Table 10. History of the Athabasca Seasonal/Winter Road (Points North to Black Lake)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	1-Nov	31-Mar	152	180	$648,433
2000-01	6-Dec	31-Mar	116	180	$465,944
2001-02	6-Dec	12-Apr	128	180	$616,347
2002-03	N/A	N/A	N/A	180	$866,523

* There were no official opening or closing dates in 2003

8.4 Athabasca Seasonal/Winter Road



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2002-03	N/A	N/A	N/A	180	$866,523

* There were no official opening or closing dates in 2003

Table 11. History of the Athabasca Seasonal/Winter Road (Stony Rapids to Shasko Bay)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	1-Feb	31-Mar	60	51	$145,019
2000-01	8-Feb	31-Mar	52	51	$370,361
2001-02	26-Feb	5-Apr	39	51	$95,459
2002-03	10-Feb	31-Mar	50	51	$106,195

Table 12. History of the Athabasca Seasonal/Winter Road (Shasko Bay to Fond du Lac)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	N/A	31-Mar	N/A	32	$98,544
2000-01	8-Feb	31-Mar	52	32	$113,305
2001-02	26-Feb	5-Apr	39	32	$118,713
2002-03	10-Feb	31-Mar	50	32.6	$108,851

Table 13. History of the Athabasca Seasonal/Winter Road (Fond du Lac to Uranium City)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	1-Mar	31-Mar	31	100	$15,318
2000-01	26-Feb	6-Mar	9	85	$39,359
2001-02	6-Mar	22-Mar	17	92	$37,572
2002-03	17-Feb	15-Mar	27	92	$99,208

9.0 Conclusions

Year by year traffic fluctuations at individual ferries are related to the operating season length, river conditions and local economic activity. In 2003, the ferry system operated below the 10 year average traffic levels. All ferries, except Riverhurst, carried more traffic and had a higher ADT in 2003 than in 2002.

9.1 Operating Season/Downtime

- Generally, the 2003 operating season was similar to 2002.
- As in previous years, the Riverhurst ferry had the longest operating season, extending into December 2002.
- The Estuary ferry was closed for two weeks in October because of low water levels.
- Mechanical problems at all of the ferries were fixed within a reasonable amount of time.
- Seasonal/winter road operation is driven primarily by the timing and severity of winter weather.

9.2 Traffic Volumes

- Lancer, Cecil and Wingard all had an increase in ADT of over 20 per cent since 2002.
- Only the Riverhurst ferry had fewer vehicles and a lower ADT in 2003, compared with 2002.

9.3 Vehicle Classifications

- The Riverhurst, Hague and Wingard ferries had a high percentage of "other" vehicles, which are normally interpreted as farming and recreational vehicles.
- The Paynton, Cecil, Lancer and Estuary ferries had a large percentage of straight trucks, which are used primarily for short distance hauling.
- Riverhurst and Paynton ferries have the highest percentage of single and multi trailer semi trucks, at five and three per cent respectively.
- Truck percentages more than doubled at the Fenton ferry and decreased by 57 % at the St. Laurent ferry compared to 2002.

10.0 Recommendation

The Department require the operators of the Wollaston Barge ferry to collect vehicle type information using the classification system used by the rest of the ferries when the operating agreement is renegotiated.

Appendix A

Saskatchewan Highways and Transportation

Ferry Traffic Data Summary

Ferry crossing_____ File No._____ Month of_____, 200___

Shift						
Day	LGT	Straight Trucks	Semi Trailer	Multi Trailer	No. Pass	Other
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
Totals						

Statement Certified Correct

_____

Ferry operator

KEY

LGT	-Cars & Pickups
Straight Trucks	-Non-articulated
Semi Trailer	-Single Trailer
Multi-Trailer	-2 or more Trailers

Notes:

1) "Other" includes farm or construction equipment
2) Give details in "Comments" ie: dangerous good equipment type, product hauled etc.

Saskatchewan Highways and Transportation

Ferry Traffic Data Summary

Ferry crossing _____ Month of _____

Day	LGT	Straight Trucks	Semi Trailer	Multi Trailer	No. Pass	Other	Comments
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
Totals							

Statement Certified Correct

_____

Ferry operator

KEY

LGT	-Cars & Pickups
Straight Trucks	-Non-articulated
Semi Trailer	-Single Trailer
Multi-Trailer	-2 or more Trailers

Notes:

1) "Other" includes farm or construction equipment etc.
2) Give details of "other" in "Comments" ie: dangerous goods, equipment type, product hauled etc.

Riverhurst Ferry Traffic Data

Sheet No. _____

Date_____ Shift_____ Operators 1. _____ 2. _____

Departure Time	LGT	Straight Trucks	Semi Trailer	Multi Trailer	Other	Pass-engers	Comments	Engine R.P.M.	Weather			
									Wind(Kmh)	Sky	Surface	Temp
Totals												

Statement Certified Correct

_____
Ferry operator

Regular crew Name (please print)	Casual crew called Name	Accept	Refuse

		Main Engine	Genset 1	Genset 2
Hourmeter	Start			
	Finish			
Engine oil pressure				
Engine Coolant temp.				
Torque Converter Temp.				
Torque Converter Pres.				
Engine oil added				
Engine Coolant added				
Torque Conv. oil added				
Transmission oil added				
Final drive oil added				
Hydraulic oil	East Ramp_____		West Ramp_____	

Remarks (Weather, Servicing, etc)

Appendix B

2003 Ferry Downtime

Ferry	Date	Hours	2003 Total Downtime	% of Time Out of Service	Reason
Riverhurst	June 25 to 27	52			Repairs
	July 3 to 4	7			Repair Pulley
	July 17	1			Repairs
	October 9	4			High Wind
	October 15	12			Repairs
	October 16	4			Repair Pulley
	October 17 to 18	31			Repair Cable
	October 20	3			Repairs
	October 27	6	120	2.4	High Wind
Lemsford	April 30	5	5	0.2	High Water
Estuary	August 21 to 22	11			Vehicle Accident
	October 16 to 30	241	252	8.2	Low Water

Appendix C

Historic Traffic Volumes

Ferry	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Average
Clarkboro	34 291	37 284	34 674	42 448	31 975	39 338	42 991	40 839	52 185	53 780	58 303	46 374	53 066	**43 658**
Riverhurst	32 613	38 835	40 242	40 076	41 291	36 449	50 766	45 763	42 424	50 010	47 867	37 578	34 288	**41 400**
Paynton	28 662	34 293	42 058	30 686	30 453	30 172	34 365	32 453	28 808	33 749	31 348	28 910	32 603	**32 197**
Weldon	27 586	28 460	24 754	30 465	26 268	29 657	29 455	28 003	30 382	27 770	25 875	22 461	25 308	**27 419**
St.Laurent	25 842	24 017	18 556	20 421	30 030	19 875	16 987	17 133	29 143	29 980	23 796	18 102	19 661	**22 580**
Cecil	12 054	13 887	13 210	12 752	12 678	11 603	11 303	11 234	11 016	11 484	13 073	11 873	15 254	**12 417**
Wingard	9 511	10 628	10 115	10 719	10 687	9 878	9 420	12 467	12 227	12 791	13 158	9 368	12 276	**11 019**
Hague	13 258	15 700	20 883	14 442	12 425	11 961	14 577	13 122	12 845	12 156	12 652	10 006	10 963	**13 461**
Lemsford	13 368	13 588	13 381	13 471	12 170	12 805	14 393	11 849	11 730	11 623	15 659	10 031	10 885	**12 689**
Estuary	7 172	7 900	8 153	7 278	6 844	8 463	9 058	9 217	9 793	10 437	9 541	7 847	8 096	**8 446**
Lancer	5 779	6 928	7 047	7 649	5 673	6 789	6 685	6 967	7 604	7 421	3 324	5 503	7 490	**6 528**
Fenton	3 079	7 394	6 517	9 730	8 582	8 366	8 716	8 324	9 640	8 533	8 563	6 461	6 974	**7 760**
Cumberland	20 891	23 192	24 000	23 041	28 198	19 082	Closed	Closed	Closed	Closed	Closed	Closed	Closed	**23 067**
Total	**234 106**	**262 106**	**263 590**	**263 178**	**257 274**	**244 438**	**248 716**	**237 371**	**257 797**	**269 734**	**263 159**	**214 514**	**236 864**	**250 219**

Appendix D

Historic Average Daily Traffic (ADT)

Ferry	1997	1998	1999	2000	2001	2002	2003	Average
Clarkboro	218	206	234	255	255	234	276	**240**
Riverhurst	213	190	174	216	204	176	169	**192**
Paynton	210	159	141	170	158	167	175	**168**
Weldon	153	142	159	141	135	133	142	**144**
St.Laurent	91	85	130	147	111	99	107	**110**
Cecil	59	57	58	57	67	71	86	**65**
Wingard	50	63	63	63	66	54	66	**61**
Hague	75	68	58	61	59	55	59	**62**
Lemsford	68	58	52	58	69	55	59	**60**
Estuary	44	47	44	52	48	48	49	**48**
Lancer	33	33	34	37	34	32	40	**35**
Fenton	45	43	51	45	45	40	41	**44**
Total	**1 261**	**1 152**	**1 199**	**1 302**	**1 250**	**1 166**	**1 271**	**1 228**

Appendix E

Historic Passenger Volumes

Ferry	2000	2001	2002	2 003	Average
Clarkboro	69 292	98 654	80 526	88 909	**84 345**
Riverhurst	100 979	90 056	70 700	66 422	**83 458**
Paynton	60 119	55 475	50 577	56 014	**55 546**
Weldon	N/A	49 555	44 007	48 249	**47 270**
St.Laurent	N/A	N/A	N/A	41 656	**41 656**
Cecil	N/A	24 098	22 112	28 819	**25 010**
Wingard	24 417	33 260	21 271	28 299	**26 812**
Hague	13 705	22 221	17 040	18 254	**17 805**
Lemsford	21 548	28 651	18 050	19 129	**21 845**
Estuary	19 152	18 045	14 631	14 728	**16 639**
Lancer	13 668	6 113	9 992	13 174	**10 737**
Fenton	N/A	13 236	10 835	11 909	**11 993**
Total	**322 880**	**439 364**	**359 741**	**435 562**	**389 387**

** Riverhurst Average Includes Volumes from 1996 to 2003